



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8647/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: North West Quarries Pty Ltd

1.3. Property details

Property: Mining Lease 47/1495
Local Government Area: Town of Port Hedland and the Shire of Roebourne
Colloquial name: Red Hill Sand Quarry

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
52.51		Mechanical Removal	Sand Mining

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 26 September 2019

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description The vegetation of the application area is broadly mapped as the following Beard vegetation association:

589: Mosaic: Short bunch grassland - savannah/ grass plain (Pilbara)/ Hummock grasslands, grass steppe; soft spinifex (GIS Database).

A Level 2 flora and vegetation survey was conducted over the application area by MMWC Environmental Pty Ltd (MMWC) from 10 to 12 October 2013. The following vegetation associations were recorded within the application area (MMWC, 2014):

AsaAstTeEe: High Shrubland of *Acacia sabulosa* over low open shrubland of *Acacia stellaticeps* over hummock grassland of *Triodia epactia* over very open tussock grassland of *Eragrostis eriopoda* on sand dune;

AssAtAsTe: Scattered low shrubs of *Acacia sclerosperma* subsp. *Sclerosperma*, *Acacia trachycarpa* and *Acacia stellaticeps* over open hummock grassland of *Triodia epactia* on sand plain;

Ex: Open tussock grassland of *Eragrostis xerophila* on clay plain; and

EcrMgMIAtTe*Cc*Cs: Low open woodland of *Eucalyptus camaldulensis* subsp. *Refulgens* over high open shrubland of *Melaleuca glomerata*, *Melaleuca linophylla* and *Acacia trachycarpa* over very open hummock grassland of **Cenchrus ciliaris* and **Cenchrus setiger* in river.

Clearing Description Red Hill Sand Quarry.
North West Quarries Pty Ltd proposes to clear up to 52.51 hectares of native vegetation within a boundary of approximately 92.35 hectares, for the purpose of sand mining. The project is located approximately 77 kilometres south-west of Port Hedland, within the Shire of Roebourne.

Vegetation Condition Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);
To:
Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment Vegetation condition was based on the flora, vegetation and fauna assessment conducted by MMWC (2014) and converted to the Keighery scale by the assessing officer.

This clearing permit application is to replace CPS 6262/1 as the permit holder has changed.

3. Assessment of application against Clearing Principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is not likely to be at variance to this Principle

The application is located within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) region and the Roebourne subregion (GIS Database). The Pilbara region represents a transitional zone between semi-arid and tropical climates (CALM, 2002). The Roebourne IBRA subregion comprises quaternary alluvial and older colluvial coastal and sub-coastal plains with a grass savannah of mixed bunch and hummock grasses (CALM, 2002).

A flora, vegetation and fauna assessment was conducted by MMWC Environmental Pty Ltd in 2014 (MMWC, 2014). A total of four vegetation associations were recorded within the application area, which ranged from Excellent to Degraded condition (Keighery, 1994; MMWC, 2014). None of the vegetation associations represented a Priority or Threatened Ecological Community (MMWC, 2014; GIS Database).

A total of 112 flora taxa comprising 31 families and 71 genera were recorded by MMWC (2014) within the application area and surrounds. The Priority 3 flora *Abutilon* sp. Pritzelianum (S. van Leeuwen 5095) was the only conservation significant flora species recorded within the application area, which was a Priority 1 at the time of the survey, with the conservation significance of the species since downgraded (Western Australian Herbarium, 1998-). A total of 108 individuals within two populations of this taxa were recorded within the survey area, approximately half of which (one population) occurs within the application area. This species has a moderate distribution within the Pilbara region, known from records near Karratha, Onslow and Carnarvon (MMWC, 2014; Western Australian Herbarium, 1998-). Furthermore, MMWC (2014) advises that this species has been recorded in a number of locations in the surrounding region during previous surveys. Based on the local and regional distribution of *Abutilon* sp. Pritzelianum (S. van Leeuwen 5095), the proposed clearing is not expected to impact the conservation status of this species.

There were six weed species recorded within the application area and surrounds (MMWC, 2014). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Four faunal habitats were identified within the application area (MMWC, 2014). While there is a moderate level of habitat diversity in the application area and surrounds that is likely to support a diverse fauna community (MMWC, 2014), the application area is not likely to support an area of high biodiversity in a local or regional context.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

CALM (2002)
Keighery (1994)
MMWC (2014)
Western Australian Herbarium (1998-)

GIS Database:

- IBRA Australia
- Threatened and Priority Flora
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- Threatened Fauna

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is not likely to be at variance to this Principle

Four faunal habitat types were identified within the application area (MMWC, 2014):

1. Sand plain with hummock grassland;
2. Clay plain with tussock grassland;
3. Sand dune; and
4. Riverine.

All habitat types were considered to be widespread within the surrounding landscape, with the exception of sand dune habitat (MMWC, 2014). Sand dune habitat is moderately restricted on a regional scale, and may support a different fauna community to surrounding habitat types (MMWC, 2014). While a field-based fauna survey has not been conducted within the application area to confirm its value to fauna, there is potential for sand dune habitat to be of increased significance on a local and regional scale.

One species of conservation significance was recorded within the application area; the Rainbow Bee-eater (MMWC, 2014). There were three Rainbow Bee-eaters recorded within the riverine habitat, which may serve as breeding habitat if the banks present a vertical face for nesting. Aerial imagery suggests a more extensive area of suitable breeding habitat downriver of the proposed clearing, therefore the application area is unlikely to represent critical habitat for this species (GIS Database). Furthermore, clearing of the river will only be conducted during dry periods (North West Quarries, 2019) and will therefore not overlap with the breeding period of this species which extends from August to January (DotEE, 2019).

MMWC (2014) has advised the application area represents suitable habitat for the Northern Marsupial Mole, Greater Bilby and the Pilbara Olive Python. The Northern Marsupial Mole is a small (30- 60 grams) almost entirely fossorial mammal most often found in sandy dune habitat supporting *Acacia* shrubland with spinifex (Benshemesh, 2004). This species is rarely found on isolated sand dunes, as hard or rocky substrates are considered to provide a barrier to movement and the species has poor dispersal ability above ground (Benshemesh, 2004). The application area is separated by the western-most records for the Northern Marsupial Mole by a large rocky range, and based on aerial imagery the sand dune habitat of the proposed clearing and surrounds is up to 250 - 350 kilometres away from other suitable sand dune habitat (GIS Database). Therefore, it is unlikely that the proposed clearing area represents critical habitat for this species.

The Pilbara Olive Python may occur within riverine habitat in the application area. However, given the absence of permanent water or rocky areas, the application area is unlikely to represent critical habitat for this species. Furthermore, the proposed clearing overlaps only a small portion of the Peawah River, and similar suitable habitat extends both north and south of the application area (MMWC, 2014; GIS Database). The proponent has advised that Eucalypt trees within Riverine habitat will not be cleared (North West Quarries, 2019), which will maintain a level of habitat continuity along the Peawah River. This will minimise the potential impact to the Pilbara Olive Python and other species which utilise Riverine habitat in the area.

The application area occurs within the western boundary of the Greater Bilby's currently known distribution (Pavey, 2006). During the flora, vegetation and fauna assessment, the application area was thoroughly searched for burrows and other evidence of the Greater Bilby (MMWC, 2014). However, no evidence of Greater Bilby occupation was found, therefore this species is considered unlikely to occur within the application area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology Benshemesh (2004)
DotEE (2019)
MMWC (2014)
North West Quarries (2019)
Pavey (2006)

GIS Database:
- Imagery

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments **Proposal is not likely to be at variance to this Principle**
There are no known records of Threatened flora within the application area (GIS Database). A flora survey of the application area did not record any species of Threatened flora (MMWC, 2014).

MMWC (2014) advise that the application area does not provide suitable habitat for any Threatened flora species which could occur in the surrounding region.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology MMWC (2014)

GIS Database:
- Pre-European Vegetation
- Threatened and Priority Flora

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments **Proposal is not likely to be at variance to this Principle**
There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database).

A flora and vegetation survey of the application area did not identify any TECs (MMWC, 2014).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology MMWC (2014)

GIS Database:

- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments **Proposal is not at variance to this Principle**

The application areas fall within the Pilbara Interim Biogeographic Regionalisation of Australia bioregion (GIS Database). The vegetation within the application areas is recorded as:

589: Mosaic: Short bunch grassland - savannah/ grass plain (Pilbara)/ Hummock grasslands, grass steppe; soft spinifex(GIS Database).

The above Beard vegetation association retains approximately 99% or above of its pre-European extent at both the state and bioregion level (Government of Western Australia, 2019). The area proposed to be cleared is not a significant remnant of native vegetation.

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology Government of Western Australia (2019)

GIS Database:

- IBRA Australia
- Pre-European Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments **Proposal is at variance to this Principle**

The vegetation association EcrMgMIAtTe*Cc*Cs occurs in association with a watercourse and is considered to be riparian in nature (MMWC, 2014). This vegetation association is within the proposed clearing, where sand mining is proposed within the Peawah River. However, the extent of this vegetation association within the application area is limited to approximately 7 hectares, which represents 22% of the area covered by this vegetation association within the survey area (MMWC, 2014). Furthermore, impacts to riparian vegetation will be minimised through commitments made by the proponent to avoid clearing bank vegetation and Eucalypt trees (North West Quarries, 2019). This vegetation assemblage is not restricted on a local scale (MMWC, 2014), and the proposed clearing is unlikely to impact the regional representation of this vegetation association. Impacts to riparian vegetation in and around the application area may be minimised by the implementation of a watercourse management condition.

Based on the above, the proposed clearing is at variance to this Principle.

Methodology MMWC (2014)

North West Quarries (2019)

GIS Database:

- Hydrography, Lakes
- Hydrography, linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments **Proposal is not likely to be at variance to this Principle**

The application area lies within the Mallina and Gregory land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Mallina land system is described as sandy alluvial plains of soft (and occasionally hard) spinifex grasslands (Van Vreeswyk et al., 2004). Riverine habitat within the application area coincides with this land system, and this area is highly susceptible to erosion if cleared (Van Vreeswyk et al., 2004). However, the proponent has advised that impacts to vegetation within this land system will be minimised by using an excavator three metres away from the river bank to remove vegetation on the river bed, removing the need to disturb the river bank (North

West Quarries, 2019). Large Eucalypt trees in Riverine habitat will not be cleared (North West Quarries, 2019), which also reduces erosion risk within the Mallina land system.

The Gregory land system consists of linear dunes and restricted sandplains supporting shrubby spinifex grasslands (Van Vreeswyk et al., 2004). This land system covers the remainder of the application area, which comprises sand dune, sand plain and clay plain landforms (MMWC, 2014). Sand dunes are particularly prone to erosion following disturbance, such as the proposed clearing (Van Vreeswyk et al., 2004). Erosion within the application area may be minimised by the implementation of a staged clearing condition.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology MMWC (2014)
North West Quarries (2019)
Van Vreeswyk et al. (2004)

GIS Database:
- Landsystem Rangelands

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal is not likely to be at variance to this Principle**

There are no conservation areas in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the Mungaroon Range Nature Reserve which is located approximately 51 kilometres south of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Database:
- DPaW Tenure

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposal is not likely to be at variance to this Principle**

There are no Public Drinking Water Source Areas within or in close proximity to the application area, however it is located within the proclaimed Pilbara groundwater area under the *Rights in Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water and Environmental Regulation.

The application area occurs over a 1.2 kilometre section of the Peawah River (GIS Database). This river experiences seasonal inundation, where some natural sedimentation is likely to occur. The clearing of native vegetation has the potential to destabilise soils and cause temporary sedimentation to watercourses. However, vegetation cleared within the river will be restricted to shrubs and smaller vegetation for a ramp (North West Quarries, 2019). The Eucalypt trees will not be cleared (North West Quarries, 2019). Furthermore, all clearing activity will occur outside of the period of inundation, which will further reduce sedimentation of watercourses. A flora management condition is recommended to reflect the proponent's commitment to avoid Eucalypt trees within the application area. The proposed clearing is therefore unlikely to cause significant deterioration in the quality of surface water in or around the application area.

Groundwater salinity in the local area is 1,000 - 3,000 milligrams/Litre Total Dissolved Solids (TDS), which is considered brackish (GIS Database). The proposed clearing activity is not likely to cause deterioration of groundwater within the project area.

Based on the above, the proposed clearing is not likely to be at variance with this Principle.

Methodology North West Quarries (2019)

GIS Database:
- Hydrography, Linear
- Public Drinking Water Source Areas

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments Proposal is not likely to be at variance to this Principle

The Pilbara region represents a transitional zone between semi-arid and tropical climates, and receives a majority of its rainfall during the summer months (CALM, 2002). The Peawah River is likely to receive some runoff from the surrounding area and serves to transport water downstream. In this landscape, some minor flooding may occur but is unlikely to be significant. The proposed clearing is unlikely to significantly alter the intensity of flooding within the application area or surrounding areas.

The application area is located within the Peawah River catchment area (GIS Database). However, given the size of the area to be cleared (52.51 hectares) in relation to the size of the catchment area (201,547 hectares), the proposed clearing is not likely to increase the potential for flooding in this region (GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology CALM (2002)

GIS Database:

- Hydrographic Catchments - Catchments
- Hydrography, linear

Planning Instrument, Native Title, previous EPA decision or other matter.

Comments

The clearing permit application was advertised on 2 September 2019 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. One submission was received stating no objection to the proposed clearing.

There is one native title claim over the area under application (DPLH, 2019). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2019). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

Methodology DPLH (2019)

4. References

- Benshemesh, J (2004) Recovery Plan for Marsupial Moles *Notoryctes typhlops* and *N. caurinus*. 2005-2010. Northern Territory Department of Infrastructure, Planning and Environment, Alice Springs.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DPLH (2019) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 3 September 2019).
- DotEE (2019) *Merops ornatus* in Species Profile and Threats Database, Department of the Environment, Canberra. <http://www.environment.gov.au/sprat> (Accessed 19 September 2019).
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- MMWC (2014) Red Hill Flora, Vegetation and Fauna Assessment. Report prepared by MMWC Environmental Pty Ltd for Quarrytech Consulting Pty Ltd, 2014.
- North West Quarries (2019) Additional information received in relation to Clearing Permit Application CPS 8647/1. North West Quarries Pty Ltd, Western Australia.
- Pavey, C (2006) National Recovery Plan for the Greater Bilby *Macrotis lagotis*. Northern Territory Department of Natural Resources, Environment and the Arts, Northern Territory.
- Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) An inventory and condition survey of the Pilbara Region, Western Australia. Technical Bulletin No. 92. Department of Agriculture, South Perth, Western Australia.
- Western Australian Herbarium (1998–). FloraBase—the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/>

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
DEE	Department of the Environment and Energy, Australian Government
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T **Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be “facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**

Threatened species considered to be “facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**

Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX Extinct species

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P Priority species:

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories

are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 Priority One - Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 Priority Two - Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 Priority Three - Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 Priority Four - Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.